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64-13

157-61-58

439293

Quarterly REPORT ON

CONTRACT NO DA 92-557-FEC-35580

INCLUSIVE DATES 1 April 1962 TO 30 June 1962

SUBJECT OF INVESTIGATION

BACTERIOLOGICAL, IMMUNOLOGICAL
AND
VIRAL STUDIES ON RECTAL MUCUS
IN
ENTERIC INFECTIONS

(SHIGELLOSIS, SALMONELLOSIS,
PATHOGENIC COLI INFECTIONS
AND VIRAL ENTERIC INFECTIONS).

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MAY 12 1964

U.S. Army Research & Development Group (9852) (Far East)

Office of the Chief of Research and Development

United States Army

APO 343

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BACTERIOLOGICAL, IMMUNOLOGICAL AND
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(SHIGELLOSIS, SALMONELLOSIS, PATHO-
GENIC COLI INFECTIONS AND VIRAL
ENTERIC INFECTIONS)

Serological researches on serum and rectal mucus in Shigellosis and Salmonellosis obtained during the period 1 April through 30 June are as follows:

1. Method of the Latex agglutination

The Latex agglutination technique used was essentially the same as that was described by Wiedermann G. (Zbl. Bact., 182, 106, 1931). But by our experiments it was demonstrated that the following concentration of Latex and bacterial suspension brought more suitable results than Wiedermann's technique. To obtain optimal concentration of Latex Difco (polystyrene latex particles, diameter 0.81 micron) to mix in Shigella or Salmonella suspension, 0.1 ml Latex suspended 1 : 10 in Glycine Saline Buffer Difco was added to 0.5 ml bacterial suspension (20 mg / ml) and to the mixture 10 ml Glycine Saline Buffer was mixed.

2. Comparative studies of the agglutination, the hem-agglutination and the Latex agglutination on sera and mucus of Shigella flexneri 2a infected cases were performed.

The Latex agglutination gave higher agglutinin titers than the agglutinin titers and ~~mostly~~ the Latex titers were similar to the hem-agglutinin titers.

~~(Table 1)~~

3. Comparison of the agglutination and the Latex agglutination in typhoid fever patients sera showed that the Latex titers were higher than the agglutinin titers.

~~(Table 2)~~

4. Serological research of a Salmonella enteritidis infected case clarified that the Latex titer was higher than the agglutinin titer and similar to the hem-agglutinin titer. In this case mucus titer was low in three sero-reactions.

~~(Table 3)~~

As summary following conclusions were obtained.

A. The Latex agglutinin titers are higher than the agglutinin titers and on the whole similar to the hem-agglutinin titers in serological reactions of Shigellosis and Salmonellosis.

B. The Latex agglutination offers the advantage of yielding exact, readable results already within two hours in contrast with both agglutination and hem-agglutination are readable after twenty-four hours.

Table 1. Comparative studies of the agglutination, the hem-agglutination and the Latex agglutination in *Shigella flexneri* 2a infected cases

No	Material	Agglutinin titer	Hem-agglutinin titer	Latex agglutinin titer
1	serum	80	320	320
	mucus	40	160	80
2	serum	40	80	160
	mucus	80	80	160
3	serum	80	160	320
	mucus	40	80	80
4	serum	40	160	80
	mucus	< 40	< 40	40
5	serum	80	160	320
	mucus	160	160	320
6	serum	40	160	80
	mucus	< 40	< 40	80

Table 2. Comparison of the agglutination and the Latex agglutination of typhoid fever patients

No	Agglutinin titer		Latex agglutinin titer	
	Ty 2	O 901	Ty 2	O 901
1	160	320	1280	640
2	80	160	640	320
3	80	80	320	320
4	40	80	320	160
5	40	80	160	160

Table 3. Serological finding in a *Salmonella enteritidis* infected case

No	Material	Week of illness	Agglutinin titer	Hem-agglutinin titer	Latex agglutinin titer
1	serum	2 w	80	640	640
2	serum	3 w	160	640	640
3	serum	5 w	160	320	320
4	serum	6 w	160	640	320
5	mucus	5 w	< 40	< 40	40
6	mucus	6 w	< 40	< 40	< 40